



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,882	10/12/2004	Chen-Hsiung Yang	TMIP0001USA	5881
27765 7590 04/13/2007 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			EXAMINER GUTIERREZ, KEVIN C	
			ART UNIT	PAPER NUMBER
			2851	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/13/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/13/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com
Patent.admin.uspto.Rcv@naipo.com
mis.ap.uspto@naipo.com.tw

Office Action Summary	Application No. 10/711,882	Applicant(s) YANG, CHEN-HSIUNG	
	Examiner Kevin Gutierrez	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed December 28, 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, a more secured support would be provided. Further, on pages 6-8 of the Remarks, the Applicant argues there is no suggestion or motivation to make the modification of using a bonding layer to bond the wafer and the membrane goes against Ledger's intended purpose because there is no longer gap between the wafer and the bonding layer. The Examiner respectfully disagrees. With the combination of the chuck carrier structure disclose by Ledger and the bonding layer of Strasbaugh et al., a gap would still exist between the wafer and the membrane, which does not teach away from the intention of Ledger.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6-8, 10-14, 16-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ledger et al. (5,515,167) in view of Strasbaugh et al. (US 2003/0134578).

Regarding claims 1, 6, 12 and 16, Ledger et al. discloses “a transparent base (fig. 3, 34; membrane, col. 5, lines 42-44);

- a conducting layer (32; conducting film) positioned on a bottom surface of the transparent base (see figure 3, where conducting layer 32 is located beneath transparent base 32);

- wherein the wafer carrier is attracted by an electrostatic chuck (24) via the conducting layer (col. 5, lines 5-7).”

Ledger et al. does not disclose a (claims 1 and 12) “bonding layer positioned on a top surface of the wafer carrier for bonding the wafer and the transparent base together” and (claims 6 and 16) “wherein the bonding layer is selected from the group consisting of double-sided tape, ultra violet tape, thermal sensitive tape, photo resist, and wax.”

Art Unit: 2851

However, having a bonding layer of double-sided tape, ultra violet tape, thermal sensitive tape, photo resist, or wax which bonds the wafer and the transparent layer is known to the art as it is evident by the teaching of Strasbaugh et al. (see claim 3). Thus, it would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the chuck Ledger et al. by including a tape bonding layer utilized in a manner described above for at least the purpose to provide a secure support.

Regarding claim 2, Ledger et al. further disclose "wherein the transparent base has dimensions similar to that of the wafer (col. 5, lines 49-51)."

Regarding claim 3, Ledger et al. further disclose "wherein the transparent base is a glass wafer (col. 5, lines 42-44)."

Regarding claim 7, Ledger et al. further disclose "wherein the wafer is transferred and undergoes at least a semiconductor process (col. 8, lines 62-65)."

Regarding claims 8 and 17-18, Ledger et al. further discloses a semiconductor process (col. 8, lines 62-65) and an alignment mark system (col. 7, lines 1-4). Ledger et al. does not disclose "wherein the semiconductor process is a double-sided process."

However, it would be obvious to one ordinary skilled in the art that the invention of Ledger et al. is capable to perform a double-sided semiconductor process. Ledger et al. teaches where the apparatus can repeatedly perform patterning procedures (col. 8, lines 62-65). Thus, it would have been obvious to one ordinary skilled in the art at the time the invention was made to further modify the

Art Unit: 2851

semiconductor process of Ledger et al. as modified by implementing a double-sided semiconductor process for at least the purpose of reducing cost production.

Regarding claims 10 and 20, Ledger et al. further disclose "wherein the conducting layer is a non-transparent conducting layer (32) having at least an exposed region corresponding to the alignment mark (col. 7, lines 1-4).

Regarding claim 11, Ledger et al. further disclose "wherein the non-transparent conducting layer comprises a plurality of conducting patterns connected with each other (col. 5, lines 32-38)."

Regarding claim 13, Ledger et al. further disclose "wherein the transparent base has dimensions similar to that of the wafer (col. 5, lines 49-51)."

Regarding claim 14, Ledger et al. further disclose "wherein the transparent base is a glass wafer (col. 5, lines 42-44)."

Regarding claim 21, Ledger et al. further disclose "wherein the non-transparent conducting layer comprises a plurality of conducting patterns connected with each other (col. 5, lines 32-38)."

4. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ledger et al. in view of Strasbaugh et al., as applied to claims 1 and 12, and in further view of Suzuki et al. (US 2003/0029565).

Ledger et al. disclose a transparent base, but does not disclose "wherein the transparent base is a quartz wafer."

However, having a quartz wafer as a transparent base is known to the art as it is evident by the teaching of Suzuki et al. ([0051], lines 2-3). Thus, it would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the transparent base of Ledger et al. by having the transparent base as a quartz wafer for at least the purpose of having a stronger base.

5. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ledger et al. in view of Strasbaugh et al., as applied to claim 8, and in further view of Bollen et al. (4,766,515).

Ledger et al. further disclose a conducting layer, but does not disclose "wherein the conducting layer is a transparent conducting layer."

However, having a transparent conducting layer is known to the art as it is evident by the teaching of Bollen et al. (col. 3, lines 13-15). Thus, it would have been obvious to one ordinary skilled in the art at the time the invention was made to further modify the conductor layers of Ledger et al. as modified by having them as transparent conducting layers for at least the purpose of reducing the weight composition of the chuck.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Gutierrez whose telephone number is (571)-272-5922. The examiner can normally be reached on Monday-Friday: 8:00 a.m. - 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571)-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2851

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin Gutierrez
Examiner
Art Unit 2851

March 28, 2007



DIANE LEE
SUPERVISORY PATENT EXAMINER